

PIXLEY NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT 1969

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## PIXLEY NATIONAL WILDLIFE REFUGE

### I. GENERAL

#### A. Weather.

No weather measurement instruments are located at Pixley Refuge. The figures given for Kern Refuge do not differ significantly from conditions which occurred on Pixley. The two refuges are located about 15 air miles apart.

#### B. Habitat Conditions.

##### 1. Water:

In late January Pixley Refuge was hit by a disastrous flood. Damage was so extensive as to render the refuge water management facilities completely inoperable. All exterior and interior dikes were breached and washed out at numerous points. All dikes, including the south exterior dike, received moderate to heavy erosion damage from the local rainfall.

From January 18th to 24th over 3.5 inches of rain was received at the refuge. More than 8 inches of rainfall was received in the upper reaches of the Deer Creek drainage east of the refuge during this period.

During the night of January 26 an estimated 3200 c.f.s. of Deer Creek water was entering the refuge on the undiked east side. This was in addition to water entering through breaks in the west exterior dike.

After the flood it was impossible to impound any water on the refuge, which remained dry for the balance of the year. Therefore available water was limited to a few scattered potholes during the summer and fall.

##### 2. Food and Cover:

Due to the lack of water, food and cover for waterfowl and shorebirds were practically non-existent, except before, during, and several weeks following the flood.

Atriplex and Russian thistle provided some food and cover for pheasants and small mammals. The willows along Deer Creek on the west side of the refuge provided cover for pheasants and were used by large numbers of white-crowned and vesper sparrows in the fall.

Annual grasses were browsed by small numbers of geese during late fall.

## II. WILDLIFE

### A. Migratory Birds.

#### 1. Waterfowl:

a. Geese: At the beginning of the year 920 geese were using Pixley Refuge. They were composed of 800 large Canadas, 90 cackling geese, and 30 whitefronts. This ratio remained relatively constant through the spring. The geese peaked at 1169 birds early in February. All had departed by early April.

A few fall migrants arrived in early October, all large Canadas. They never exceeded 100 birds all fall.

b. Ducks: About 25,000 ducks were present on the refuge the first week in January. The population dropped to 9000 during the middle of the month, and fluctuated between 1600 and 11,000 until mid-March. A few ducks remained through April, but all had departed by early May.

A few early fall migrants began using the scattered potholes the first part of August. These were mostly mallards, pintails, and green-winged teal. They peaked at about 1000 birds in mid-August. This turned out to be the fall peak. Total use days attributed to ducks was only 55,685 for the fall period.

c. Coots and Gallinules: The first week of January about 2000 coots were present on the refuge. They peaked at 3500 in late January and early February. Most of these birds had left early April, however a few remained until the first week of May.

About 150 fall migrants arrived the first part of August. Coot numbers never exceeded 200 through the end of the year.

No common gallinules were observed on Pixley this year.

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No common gallinules were observed on Pixley this year.

## 2. Water and Marsh Birds.

Water and marsh birds were represented by only a few individuals of the following species: pied-billed grebe, great blue heron, common egret, snowy egret, black-crowned night heron, and American bittern. Sandhill cranes peaked at about 150 birds during both spring and fall migrations. The cranes observed in the fall were nearly all greater sandhills.

## 3. Shorebirds and Gulls.

Following the flood the refuge provided habitat for significant numbers of shorebirds. All common species were represented. A few ring-billed gulls used the refuge during March and April. They peaked at 40 birds in late April.

## 4. Doves.

Only a very few mourning doves were observed on the refuge until early August. No nesting was observed in the area. There were 150 to 175 doves using the refuge from mid-August until early December. A few wintering birds were still present at the year's end.

## B. Upland Game Birds.

The January flood forced most of the ring-necked pheasants to move off of the refuge. There were only about 50 birds on the area early in the year. Pheasants moved back onto the refuge in late spring increasing the population to about 150 birds, which was the estimated count for the remainder of the year.

Some reproduction undoubtedly occurred, but no nests or broods were observed on the refuge this year.

## C. Big Game Animals.

None present.

## D. Fur Animals, Predators, Rodents, and Other Mammals.

A few muskrat and raccoon tracks were seen along Deer Creek during the fall. Coyote tracks were often observed throughout the year. No observations of the San Joaquin Kit Fox were made during 1969. However, on January 20, 1970 fresh kit fox tracks were seen near Deer Creek on the north side of the refuge.

Black-tailed jackrabbits were abundant all year. Desert cottontails were common, but were largely restricted to the heavier cover along Deer Creek. California ground squirrels and San Joaquin antelope squirrels were seen occasionally on or near refuge dikes.

#### E. Hawks, Eagles, and Owls.

A few red-tailed hawks were present on the refuge all year. Marsh hawks were not observed early in the year, however a small number of this species was very likely present throughout the year. They were observed during the summer and fall. One turkey vulture was observed over the refuge in April. A single white-tailed kite was sighted on March 5, and two were present during the last half of December. Two golden eagles were using the refuge from February until mid-May. Four or five burrowing owls were frequently observed on refuge dikes during the entire year.

#### F. Other Birds.

Western meadowlarks and horned larks were numerous throughout the year. These are the only species in this category that are known to nest on the refuge.

The only new record for Pixley Refuge was a mountain bluebird observed on January 6, 1970.

#### G. Fish.

Carp, goldfish, and mosquito fish were plentiful in refuge waters early in the year. Very little water remained on the refuge by late summer, and a few if any fish survived.

#### H. Reptiles.

No reptile observations were made this year.

#### I. Disease.

No evidence of botulism or any other disease was noted on the refuge this year.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development.

The two interior dikes on the refuge were damaged beyond repair by the January flood. These have been leveled as a force account operation.



A contract to reconstruct these dikes on the contour has been awarded. This contract also includes construction of a dike along the east side of the area, rehabilitation of the exterior dikes, construction of a center service channel and dikes, construction of two additional interior contour dikes, and construction and placement of all required water control structures.

The construction of the east dike and the rehabilitation of the other exterior dikes should exclude Deer Creek flood waters in the future.

This contract is scheduled for completion next summer. It will finally give us a really manageable area on Pixley Refuge.

B. Plantings.

None.

C. Collections and Receipts.

None.

D. Control of Vegetation.

The borders of all existing dikes and the sites of the new dikes were mowed to facilitate engineering and construction work. Some of the larger willows along Deer Creek were removed with a D-7 dozer.

E. Planned Burning.

None.

F. Fires.

None.

#### IV. RESOURCE MANAGEMENT

A. Grazing.

Four permittees again grazed cattle on the refuge in 1969. A total of 649 head of cattle accounted for 2813.3 A.U.M.'s for a cash revenue of \$5,626.60. Grazing was allowed on about 3,300 acres of refuge grasslands. Grasslands in the upper San Joaquin Valley are composed of winter annual grasses and forbs with only a few perennial forbs and shrubs. Range conditions are entirely dependent on winter and early spring rainfall. Normally, very little growth occurs after June 1, since summers in this area are very hot and dry.



Grazing conditions were generally excellent this year. The cattle did have to be removed for about a month during the flood.

#### V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

None.

#### VI. PUBLIC RELATIONS

##### A. Recreational Uses.

Pixley Refuge was in no condition to sustain any recreational use this year.

##### B. Refuge Visitors.

Visitors pertaining to this project were included in the Kern Refuge report.

##### C. Refuge Participation.

Also included in the Kern report.

##### D. Hunting.

No public hunting is currently allowed on Pixley refuge. There was some evidence of trespass hunting during the waterfowl season, but no apprehensions were made.

##### E. Violations.

None observed.

##### F. SAFETY.

Included in Kern Refuge report.



1/25/69 - Deer Creek flowing across Road 88 into the east side of the refuge.



1/25/69 - Floodwaters flowing across northwest dike from refuge back into Deer Creek channel.





1/25/69 - Floodwaters against north dike.



1/25/69 - Small break in north dike.



1/25/69 - Flooded land along Deer Creek looking east from Central Valley Highway.



1/25/69 - Deer Creek floodwaters just west of the refuge.





12/30/69 - Area adjacent to northwest dike which was mowed with a rotary mower to remove small willows and annual weeds.



12/30/69 - Section of leveled cross dike.

SIGNATURE PAGE

Prepared by: Lawrence G. Kline  
Ass't Refuge Manager

Submitted by: *for* Leon A. Littlefield

*Lawrence G. Kline*  
\_\_\_\_\_  
(Signature)

Refuge Manager  
\_\_\_\_\_  
(Title)

Date: 3/13/70

Approved, Regional Office:

Date: \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)



WATER FOWL

REFUGE                     

MONTHS OF JANUARY TO APRIL, 19 52

(1) Species	(2) Weeks of reporting period									
	1/1-1/7	1/8-1/14	1/15-1/21	1/22-1/28	1/29-2/4	2/5-2/11	2/12-2/18	2/19-2/25	2/26-3/5	3/6-3/12
	1	2	3	4	5	6	7	8	9	10
<b>Swans:</b>										
Whistling										
Trumpeter										
<b>Geese:</b>										
Canada	800	725	750	150	950	800	800	925	300	300
Cackling	10	105	100	20	100	110	100	85	30	20
Brant										
White-fronted	20	33	30	0	25	25	25	25	9	0
Snow	0	0	0	0	0	0	0	0	0	0
Blue										
<b>OTHERS TOTAL GEES</b>	<b>950</b>	<b>863</b>	<b>880</b>	<b>170</b>	<b>1,125</b>	<b>910</b>	<b>925</b>	<b>915</b>	<b>329</b>	<b>320</b>
<b>Ducks:</b>										
Mallard	1,000	3,900	1,200	200	500	500	120	125	300	125
Black										
Gadwall	50	50	75	0	0	0	0	0	0	0
Baldpate	5,000	1,200	1,000	500	1,500	1,200	1,000	150	70	0
Pintail	12,000	13,000	4,000	500	5,000	5,200	3,400	3,700	2,800	1,700
Green-winged teal	2,000	1,500	500	100	3,000	2,100	2,400	1,400	1,800	100
Blue-winged teal	0	0	0	0	0	0	0	0	0	0
Cinnamon teal	25	25	10	10	100	750	800	800	500	150
Shoveler	1,500	750	700	100	250	250	200	250	100	50
Wood	0	0	0	0	0	0	0	0	0	0
Redhead	0	0	0	0	0	0	0	0	0	0
Ring-necked	75	20	25	20	0	0	0	0	0	0
Canvasback	10	10	10	10	0	0	0	0	0	0
Scaup	0	0	0	0	0	0	0	0	0	0
Goldeneye	0	0	0	0	0	0	0	0	0	0
Bufflehead	0	0	0	0	0	0	0	0	0	0
Ruddy	10	20	50	50	0	5	5	0	0	0
Other <small>Common Hery.</small>	3	3	0	0	0	0	0	0	0	0
<b>TOTAL DUCKS</b>	<b>26,303</b>	<b>22,908</b>	<b>7,015</b>	<b>1,590</b>	<b>10,250</b>	<b>10,105</b>	<b>7,175</b>	<b>6,225</b>	<b>4,370</b>	<b>2,675</b>
<b>Coot:</b>	<b>2,000</b>	<b>2,910</b>	<b>3,510</b>	<b>3,510</b>	<b>3,500</b>	<b>3,500</b>	<b>3,000</b>	<b>2,800</b>	<b>2,700</b>	<b>2,200</b>

MONTHS OF APRIL TO NOV, 1960

(1) Species	(2) Weeks of reporting period								(3) Estimated	(4) Production	
	11	12	13	14	15	16	17	18	waterfowl days use	Broods: seen	Estimated total
<b>Swans:</b>											
Whistling											
Trumpeter											
<b>Geese:</b>											
Canada	145	10	10	1	0	0	0		11,311	0	0
Cackling	35	10	10	0	0	0	0		2,325	0	0
Brant	0	0	0	0	0	0	0		0	0	0
White-fronted	0	0	0	0	0	0	0		1,411	0	0
Snow	0	0	0	0	0	0	0		0	0	0
Blue											
Other	185	20	20	1	0	0	0		53,114	0	0
<b>Ducks:</b>											
Mallard	25	20	20	14	16	16	12		24,965	0	0
Black											
Gadwall	0	0	0	0	0	0	0		825	0	0
Baldpate	0	0	0	0	0	0	0		114,910	0	0
Pintail	1,300	300	30	20	20	25	25		370,540	0	0
Green-winged teal	127	35	35	12	10	10	10		105,470	0	0
Blue-winged teal	0	0	0	0	0	0	0		0	0	0
Cinnamon teal	157	100	10	10	10	35	35		29,470	0	0
Shoveler	25	25	5	5	0	0	0		21,570	0	0
Wood	0	0	0	0	0	0	0		0	0	0
Redhead	0	0	0	0	0	0	0		0	0	0
Ring-necked	0	0	0	0	0	0	0		525	0	0
Canvasback	0	0	0	0	0	0	0		280	0	0
Scaup	0	0	0	0	0	0	0		0	0	0
Goldeneye	0	0	0	0	0	0	0		0	0	0
Bufflehead	0	0	0	0	0	0	0		0	0	0
Ruddy	0	0	0	0	0	0	0		1,400	0	0
Other	0	0	0	0	0	0	0		0	0	0
<b>TOTAL DUCKS</b>	<b>1,000</b>	<b>450</b>	<b>170</b>	<b>121</b>	<b>116</b>	<b>86</b>	<b>82</b>		<b>730,247</b>	<b>0</b>	<b>0</b>
<b>Coot:</b>	<b>2,200</b>	<b>2,000</b>	<b>1,200</b>	<b>0</b>	<b>100</b>	<b>100</b>	<b>65</b>		<b>23,455</b>	<b>0</b>	<b>0</b>

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	0	0	0	Principal feeding areas <u>Swake (except Midway)-off of</u>
Geese	52,126	2,119	0	<u>the refuge, Green, south &amp; Midway - Grasslands on refuge.</u>
Ducks	720,000	20,152	0	Principal nesting areas <u>W/</u>
Coots	151,415	2,500	0	
				Reported by <u>Arthur M. Wennerus, Biologist</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

WATERFOWL

REFUGE PIALEY

MONTHS OF May TO August, 19 69

(1) Species	(2) Weeks of reporting period									
	5/1-5/3 1	5/4-5/10 2	5/11-5/17 3	5/17-5/24 4	5/25-5/31 5	6/1-6/7 6	6/8-6/14 7	6/15-6/21 8	6/22-6/28 9	6/29-7/5 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	10	10	0	0	0	0	0	0	0	0
Black										
Gadwall										
Baldpate										
Pintail	15	10	0	0	0	0	0	0	0	0
Green-winged teal	10	10	0	0	0	0	0	0	0	0
Blue-winged teal										
Cinnamon teal	25	15	0	0	0	0	0	0	0	0
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
<u>TOTAL DUCKS</u>	60	45	0	0	0	0	0	0	0	0
<u>Coot:</u>	50	25	0	0	0	0	0	0	0	0

MONTHS OF May TO August, 1969

[illegible]



	(5)		(6)		(7)
	Total Days Use	:	Peak Number	:	Total Production
Swans	0	:	0	:	0
Geese	0	:	0	:	0
Ducks	23,770	:	1,000	:	0
Coots	5,225	:	75	:	0

SUMMARY	
Principal feeding areas	<u>Along ditches and small</u>
	<u>flooded areas.</u>
Principal nesting areas	<u>none.</u>
Reported by <u>Leon A. Littlefield, Refuge Manager</u>	

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- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).



WATERFOWL

REFUGE PIKEY N.W.R.

MONTHS OF September TO December, 19 69

(1) Species	(2) Weeks of reporting period									
	6/31-7/7 1	7/7-7/13 2	7/13-7/20 3	7/20-7/27 4	7/27-8/3 5	8/3-8/10 6	8/10-8/17 7	8/17-8/24 8	8/24-8/31 9	8/31-9/7 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada						25	25	25	25	25
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other TOTAL GESE						25	25	25	25	25
Ducks:										
Mallard	200	150	150	150	150	150	200	200	250	250
Black										
Gadwall										
Baldpate										
Pintail	300	300	250	250	200	200	150	100	100	75
Green-winged teal	100	100	75	50	50	50	50	50	50	50
Blue-winged teal										
Cinnamon teal	25	25	25	15	10	10	10	10	10	10
Shoveler	50	50	50	25	25	25	25	25	25	25
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other TOTAL DUCKS	675	625	550	450	435	435	435	385	435	410
Coot:	150	100	75	75	75	75	75	100	100	100

WATERFOWL  
 (Continuation Sheet)

REFUGE PITNEY

MONTHS OF September TO December, 19 69

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11/9-15	11/16-22	11/23-29	11/30-12/6	12/7-13	12/14-20	12/21-27	12/28-1/3		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	50	100	100	100	100	100	100	100	6,125	
Cackling										
Brant										
White-fronted										
Snow										
Blue										
<b>Other Total Geese</b>	50	100	100	100	100	100	100	100	6,125	
Ducks:										
Mallard	250	250	250	250	250	250	250	250	26,950	
Black										
Gadwall										
Baldpate										
Pintail	50	50	50	50	50	50	50	50	16,275	
Green-winged teal	50	50	50	50	50	50	50	50	7,175	
Blue-winged teal										
Cinnamon teal	10	10	10	10	10	10	10	10	1,610	
Shoveler	25	25	25	25	25	25	25	25	3,675	
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
<b>Other Total Ducks</b>	385	385	385	385	385	385	385	385	55,685	
Coot:	100	150	150	200	200	200	200	200	16,275	
				(over)						

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans	0	0	0
Geese	6,125	100	0
Ducks	55,685	675	0
Coots	16,275	200	0

SUMMARY

Principal feeding areas Small potholes and irrigated pasture land.

Principal nesting areas none

Reported by Laurence G. Kline

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

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- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A  
(Nov. 1945)MIGRATORY BIRDS  
(other than waterfowl)Refuge PINNEY Months of JANUARY to APRIL 1956

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Pied-billed Grebe	Last	period	8	1-24	2	1-31	0	0	0	8
Great Blue Heron	"	"	19	1-31	3	2-20	0	0	0	20
Snowy Egret	"	"	2	1-3	1	1-24	0	0	0	33
American Bittern	"	"	3	1-3	1	2-13	0	0	0	5
Sandhill Crane	"	"	150	1-3	35	2-6	0	0	0	150
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	Last	period	350	2-13	Still present		0	0	0	400
Black-bellied Plover	5	3-19	10	6-10	"	"	0	0	0	10
Common Noddy	Last	period	5	1-3	5	3-5	0	0	0	5
Long-billed Curlew	"	"	150	1-24	60	2-21	0	0	0	200
Greater Yellowlegs	"	"	40	2-6	Still present		0	0	0	70
Least Sandpiper	"	"	175	1-24	20	1-31	0	0	0	200
Long-billed Dowitcher	"	"	1,400	2-13	35	6-17	0	0	0	2,000
Western Sandpiper	"	"	150	2-1	Still present		0	0	0	225
American Avocet	"	"	100	2-6	"	"	0	0	0	140
Black-necked Stilt	3	3-21	35	6-10	"	"	0	0	0	10
Ring-billed Gull	5	3-12	110	2-3	"	"	0	0	0	70

(over)

(1)	(2)		(3)		(4)		(5)			(6)
III. <u>Doves and Pigeons:</u>										
Mourning dove	2	4-3	22	1-22	still present		0	0	0	22
White-winged dove										
IV. <u>Predaceous Birds:</u>										
Golden eagle	Last	period	2	2-3	"	"	0	0	0	2
Duck hawk										
Horned owl										
Magpie										
Raven										
Crow										
Turkey Vulture	1	4-3	1	4-10	1	4-10	0	0	0	1
White-tailed Kite	1	3-5	1	3-5	1	3-5	0	0	0	1
Red-tail Hawk	Last	period	3	2-10	still present		0	0	0	5
Mourning Owl	"	"	5	4-22	"	"	0	0	0	5
Reported by <u>Arthur H. Warner, Biologist</u>										

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751.  
Form NR-1A  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl).

Refuge..... **PINNEY**

Months of..... **May** to **August 31,** 19**69**

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	1	7-15	2	8-31	still	present	0	0	0	2560
Common Egret	1	7-20	2	8-15	"	"	0	0	0	
Snowy Egret	1	7-20	3	8-15	"	"	0	0	0	
Black Crowned Night Heron	2	5-20	4	8-31	"	"	0	0	0	

(over)



(1)	(2)		(3)		(4)		(5)			(6)
III. <u>Doves and Pigeons:</u>										
Mourning dove	Last period		150	8-15	Still present		0	0	0	250
White-winged dove										
IV. <u>Predaceous Birds:</u>										
Golden eagle	"	"	2	5-1	2	5-15	0	0	0	2
Duck hawk										
Horned owl										
Magpie										
Raven										
Crow										
Red-tailed Hawk	"	"	2	8-15	Still present		0	0	0	4
Marsh Hawk	1	7-15	2	8-11	"	"	0	0	0	4
Burrowing Owl	Last period		5	8-1	"	"	0	0	0	5
Reported by.....						Leon A. Littlefield, Refuge Mgr.				

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751

Form NR-1A  
(Nov. 1945)MIGRATORY BIRDS  
(other than waterfowl)Refuge.....PALMY.....Months of September to December 1959

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	Last	period	2	9-1	Still	present				
Common Egret	"	"	2	9-15	"	"				
Snowy Egret	"	"	3	9-15	"	"				
Black-crowned Night Heron	"	"	4	9-1	4	9-1				
Sandhill Crane	190	10-15	190	10-15	Still	present				

(over)

(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	Last	period	175	9-15	still	present			
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle									
Duck hawk									
Horned owl									
Magpie									
Raven									
Crow									
Red tailed Hawk	Last	period	4	11-30	Still	present			
Marsh Hawk	"	"	4	11-15	"	"			
White-tailed Kite	2	12-20	2	12-20	"	"			
Burrowing Owl	Last	period	4	9-1	"	"			
Reported by <u>Lawrence J. Kline</u>									

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-2750b  
Form NR-1B  
(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE  
WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge PINE KEY For 12-month period ending August 31, 1960

Reported by Leon A. Littlefield Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage			
Unit 1 Sec. 20-21	Crops	0	Ducks	1,861,902	0
	Upland	900	Geese	40,127	0
	Marsh	0	Swans	0	0
	Water	100	Coots	330,765	0
	Total	1,000	Total	2,232,694	0
Unit 2 Sec. 19-20	Crops	0	Ducks	0	0
	Upland	600	Geese	20,000	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	600	Total	20,000	0
Unit 3 Sec. 16	Crops	0	Ducks	0	0
	Upland	60	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	60	Total	0	0
Unit 4 Sec. 15	Crops	0	Ducks	0	0
	Upland	600	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	600	Total	0	0
Unit 5 Sec. 22	Crops	0	Ducks	0	0
	Upland	320	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	320	Total	0	0
Unit 6 Sec. 23	Crops	0	Ducks	0	0
	Upland	60	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	60	Total	0	0
Unit 7 Sec. 17-18	Crops	0	Ducks	0	0
	Upland	70	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	70	Total	0	0

(over)

## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
- (5) **Production:** Estimated total number of young raised to flight age.

3-1750b  
Form NR-1B  
(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE  
WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge PIXLEY (continued)

For 12-month period ending August 31, 19 69

Reported by Leon A. Littlefield

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage			
Unit 8 Sec. 20 R. 25 E.	Crops	0	Ducks	0	0
	Upland	100	Geese	0	0
	Marsh	0	Swans	0	0
	Water	0	Coots	0	0
	Total	100	Total	0	0
-----					
TOTALS	Crops	0	Ducks	1,861,902	0
	Upland	4,010	Geese	80,417	0
	Marsh	0	Swans	0	0
	Water	100	Coots	332,765	0
	Total	4,110	Total	2,275,084	0
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
-----					

(over)



## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
- (5) **Production:** Estimated total number of young raised to flight age.

Refuge PIXLEY Months of JANUARY to APRIL, 19 69

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Grasslands 200 a	4.0	0	0	24:11 **	0	0	0	50*	*Decrease since last period due to dispersion and high mortality resulting from flooding.  ** Based upon periodic observation, no survey conducted.

## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

Refuge PIKELEY Months of May to August, 19 69

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Grasslands 400 a.	2.66	0	none	2 M:IF	none			150	Increase from last period due to reproduction and birds moving back on the refuge following flood.

## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

Refuge PIXLEY Months of September to December, 19 69

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked pheasant	Grasslands and willows along Deer Creek 600 a.	4	—		1:1	—	—	—	150	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

3-175  
Form NR-4  
(June 1945)

SMALL MAMMALS

Refuge PITNEY Year ending April 30, 1969

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Popula- tion
								Permit Number	Trappers Share	Refuge share				
Coyote	Atriplex, iodine bush Grasslands 2000 A													2
Jackrabbit	Same as above													100
Desert Cottontail	Brushy thickets, cattail, etc. Atriplex 850 A													40
Calif. Ground Squirrel	Dikes, levees & dry uplands													50
Antelope Squirrel	Same as above													25

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS:

Decreases in most species due to effects of extensive flooding, January - April 1969.

Reported by Arthur M. Wimmerus, Biologist

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Refuge

FALLEN

Year 19

69

Botulism

~~None observed~~

Lead Poisoning or other Disease

Period of outbreak

Period of heaviest losses

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage)

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.)

Condition of vegetation and invertebrate life

Remarks

Kind of disease

Species affected

Number Affected Species	Actual Count	Estimated

Number Recovered

Number lost

Source of infection

Water conditions

Food conditions

Remarks

3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge FINLEY County Tulare State California

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
None									
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations 0 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	69	2813.3	5,626.60	3,300
				2. Other				
				1. Total Refuge Acreage Under Cultivation				0
Hay - Wild				2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.



## REFUGE GRAIN REPORT

Refuge PIALEY

Months of January through December

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
NONE											

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at \_\_\_\_\_

(10) Remarks \_\_\_\_\_

\*See instructions on back.

## REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

**Report all grain in bushels.** For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Reporting Year
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1969

INTERIOR--PORTLAND, OREGON